Given f(t) = 5 on [0, x]. We will find an area function, which we will call A(x), which represents the area under the graph of f from t = 0 to t = x for different values of x.

1. Fill in the chart below by evaluating

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| x | 0 | 1 | 2 | 3 | -1 |
| A(x) |  |  |  |  |  |

1. Graph the points in the table above.
2. Find a function A(x) that fits the data points: A(x) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Make a sketch of the function y = f(t) and shade in the region on the given interval. Use geometric formulas to find the area of the shaded region. A(x) = \_\_\_\_\_\_\_\_\_\_\_\_\_
4. Use the definite integral formula to evaluate A(x).